October 13, 2015

Dear Michigan House of Representatives Transportation and Infrastructure Committee,

A few years ago I researched the 85th percentile method of setting speed limits for a radio show I produced on the topic. At that time I interviewed about ten different people on all sides of the issue: the National Motorists Association (NMA), the Michigan State Police, municipal government, researchers, disability advocates, and bicyclists. I found study after study that raises significant concerns about the 85th percentile method. It was very concerning to me that the information being delivered to decision-makers by the NMA and State Police makes the issue appear clear-cut: the 85th percentile method is represented by them as unequivocally safer all-round, while I found the research they rely on is seriously flawed.

I'm told that HB 4423-4427 would increase the use of the method. As a Michigan citizen, I feel it is important for my elected representatives to be fully aware of its flaws. I have summarized my concerns below:

1. <u>The research which says motorists will be safer has been discredited.</u>

   The National Motorist Association is a vocal advocate of the 85th percentile method. Their website claims, "According to research, those driving 10 mph slower than the prevailing speed are *more* likely to be involved in an accident." But if a reader takes the time to click on the link (https://en.wikipedia.org/wiki/Solomon_curve) and check the research they have cited, they are taken to a Wikipedia site which says the research was "conducted by David Solomon in the late 1950s and published in 1964. Subsequent research suggests significant biases in the Solomon study which may cast doubt on its findings." It discusses a 1991 study which "found no relationship between slower speeds and increased crash involvement." It cites a 2001 study which found the risk of involvement in a casualty crash <u>increased more than exponentially</u> with increasing speed, while slower driving <u>lowered</u> the risk of being involved in a casualty crash.

   The concerns go far beyond those cited by Wikipedia. For instance, a 1998 Transportation Research Board study sponsored by the National Highway Traffic Safety Administration, the Federal Highway Administration, and by the Centers for Disease Control and Prevention says, "Some have interpreted these [Solomon study] results to suggest that it is as unsafe to drive below as above the average traffic speed. This ignores the fact that drivers involved in a crash at higher speeds are at greater risk of injury than those driving at lower speeds, a relationship that Solomon confirms in his analysis of the relation between speed and crash severity." "Higher speeds are linked unequivocally with increased injury severity in a crash. Indeed, the most methodologically sound studies found that higher speeds led to increased fatalities and fatal crashes on rural Interstates in most states."

   The National Motorist Association often cites a 1997 study by Martin Parker, but in analyzing it carefully, I am even less convinced. Parker himself says: "The current Michigan practice of posting speed limits within 5 mi/h of the 85th percentile speed has a beneficial effect, although small, on reducing total accidents, but has a major beneficial effect on providing improved driver compliance."*

   In other words, after raising the speed limit, the main impact is that <u>speeders are no longer breaking the law</u>(!). Note that Parker describes the number of "total accidents," not the severity of the accidents. A small decrease in the total number of accidents in no way assures us

of a decrease in the overall casualty rate. And who is being counted in the speed studies? Only motorists, and this is a crucial point.

2. The evidence is clear-cut that pedestrians will NOT be safer.

   The 1998 Transportation Research Board federal study mentioned above says, "The risk of injury and death for pedestrians struck by a vehicle rises sharply as vehicle speed increases above very low impact speeds. Thus, keeping speeds appropriately low is a priority on streets that are shared with pedestrians and other vulnerable road users." "A driver's decision to accept a higher risk of death or injury in exchange for a shorter trip time almost certainly increases the risk for other road users."

   The study goes on to outline the method for conducting an 85th percentile speed study, and points out that vehicles braking or decelerating must be excluded from the sample. If "pedestrians, animals, debris, or disabled vehicles are on or adjacent to the roadway," then the vehicles on the road at that time cannot be counted. In other words, cars that are responding appropriately to pedestrian activity are not included in the sample. Performing speed studies in areas used by pedestrians or bicyclists, but not allowing their presence to be accounted for in the data, makes no sense if safety for all is truly the goal.

3. To increase the health and safety of our population, we need more walking and biking, not less.

   Exercise is essential for both physical and mental health. We have an obesity crisis causing $22 billion a year in related health care costs. Only a small fraction of our children walk or bike to school anymore, because parents fear they will be hit by a car. Research shows that the more bikers and walkers on our roads, especially vulnerable users such as children, women and elderly, the more carefully drivers proceed. When drivers pay more attention, the roadways are safer for ALL, including for motorists.

   Walkable, bikable communities are where young people and new businesses want to locate, where real estate values soar, and where economic revitalization thrives. We must somehow encourage people to venture beyond the safety of their cars. But the faster cars go on our roadways, the more afraid we are to bike in them, or to walk across them.

   Advocates and opponents of the 85th percentile alike agree that it is the design and condition of the road that most determines a driver's speed. But changing each road to slow down the drivers is not practical, due to the huge sums of money it would take. If speed limits are allowed to be raised while we are waiting for funding to change a road's design, pedestrians will retreat further due to the real risks they face. We must reverse the cultural acceptance of deaths on our roadways as an inevitable consequence of our lifestyle. These deaths are totally preventable.

4. The 85th percentile speed is *not* the speed most others are driving.

   Proponents of the method say it is the speed the "super-majority" is driving. This is untrue and misleading. They are playing upon the public's confusion between percentages and percentiles. As in an achievement test (e.g. SAT or ACT) percentile score, if you receive a high score, you are beating the majority of other test takers—you are not average! Similarly, an 85th percentile speed is faster than 85% of the population. By raising a limit to the 85th percentile, we are demanding our new teenage drivers and our elderly drivers speed up to where they may not be

comfortable or safe doing so. I've been told "Perhaps they shouldn't be on the road then." This is not an option—both young and old need to be able to drive safely. The roads are for *all*, not just the 15% of a population that is comfortable driving at the highest speeds.

5. The 85th percentile method undervalues our intelligence and our ethics.

   The National Motorist Association often cites the 1998 Parker study as proof that driver speeds do not and will not change when posted speeds change. When I contacted Mr. Parker to discuss his methodology, he noted that educational campaigns were NOT a component of the study, and there was NO attempt to assess whether or not the drivers were even aware that the posted speeds had changed. The fact is that many (if not most) folks do not notice a change in posted speed signs unless attention is drawn to it. So, this "landmark" study does not evaluate whether or not people will slow down if they are made clearly aware of a changed speed limit, and are given reasonable encouragement to do so. For instance, signs that provide feedback, e.g. "This is the speed limit, and this is your speed," have been shown to be very effective in lowering driver speeds. The bottom line is: we can learn, we are adaptable! We *can* become a culture that cares less about saving time, and more about saving human lives.

I hope you will reconsider the research you are being shown that suggests the 85th percentile method is safer for all. Please give careful consideration to the plethora of studies that show otherwise.

Sincerely,

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Resources mentioned:

National Motorists Association
https://www.motorists.org/issues/speed-limits/faq/

Transportation Research Board Special Report 254: MANAGING SPEED
Comparison of Speed Zoning Procedures and Their Effectiveness
http://onlinepubs.trb.org/onlinepubs/sr/sr254.pdf

Comparison of Speed Zoning Procedures and Their Effectiveness
Final Report, Contract No. 89-1204
Prepared by Martin R. Parker & Associates, Inc., September 1992

Effects of Raising and Lowering Speed Limits on Selected Roadway Sections
Publication No. FHWA-RD-9 7-084
Prepared by Martin R. Parker & Associates, Inc., January 1997
https://www.fhwa.dot.gov/publications/research/safety/97084/97084.pdf